

Healthy Calves: Doing Five Things Very Well

- 1. Help the dam grow and deliver a healthy calf.**
- 2. Help the dam produce top quality colostrum.**
- 3. Protect the newborn from pathogens.**
- 4. Harvest clean colostrum and keep it that way.**
- 5. Use colostrum to build newborn immunity.**

1. Help the dam grow and deliver a healthy calf.

- Provide a late lactation ration that avoids excessive conditioning.
- Provide a late gestation heifer ration that avoids excessive conditioning but adequate protein.
- Considering lactation and frame size, breed dams to bulls most likely to avoid dystocia problems.
- Provide a close-up ration that encourages dams to continue eating adequate amounts the last week before calving.
- Provide adequate space for close-up dams before and during calving (in group housing, pack space and feed bunk space).
- Provide experienced and timely assistance to dams experiencing difficulty calving.

2. Help the dam produce top quality colostrum.

- Provide adequate resting space for close-up dams before calving.
- Provide a close-up ration that encourages dams to continue eating adequate amounts the last ten days before calving – period of rapid antibody concentration in the udder (colostrogenesis).
- Using a vaccine that best meets the immunity needs of the farm, vaccinate dams long enough before calving to stimulate the production of colostrum antibodies before colostrogenesis begins.

- As soon after calving as practical, harvest the dam's colostrum before the antibody declines. Researchers found that colostrum collected at 6, 10 and 14 hours after calving had 17%, 27% and 33% less antibodies compared to colostrum collected at 2 hours after calving.
- To avoid excessive loss of colostrum by leaking, consider milking the dam as soon after calving as possible. If oxytocin is used to promote uterine involution, consider milking the dam when the oxytocin is administered.

3. Protect the newborn from pathogens.

- Keep the calving area as clean as is practical.
- Rinse feces from the calf's head and mouth during the birthing process.
- Protect the calf's mouth. The most common route of infection for a newborn calf is "fecal-oral." Once the calf gets up, plan to protect her from manure – on you, on the dam, on the bedding, on the barn, wherever.
- Protect the calf's navel. Dip as soon as possible after birth with seven percent tincture of iodine (alcohol solution).
- The third most common route of infection for a newborn calf is nasal. The lower the concentration of airborne pathogens the lower the calf's risk of infection.

4. Harvest clean colostrum and keep it that way.

- Do a super job of udder preparation prior to harvesting colostrum. Consider using a CMT, too.
- Milk colostrum into a clean, sanitized bucket or container.
- Keep external contaminants out of the colostrum.

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- Feed colostrum right away. Or, start chilling colostrum immediately after milking it from the dam to get it below 60 degrees within 30 minutes.
- Keep colostrum below 40 degrees until we are ready to feed it. Or, consider freezing excess amounts that will not be used in two days.
- Once warmed for feeding, get colostrum into calves in less than one-half hour.
- Periodically sample colostrum as fed to calves. Have it cultured to determine the kinds and quantity of bacteria present.

5. Use colostrum to build newborn immunity.

- Feeding sooner is better.
- Feeding more is better.
- Lots of antibodies per quart is better.
- Lots of energy and protein in colostrum promote calf health.
- Passive transfer failure: when the calf has too little immunity acquired from colostrum to protect her from pathogens that will make her sick.
- Measuring passive transfer failure – the serum from a 24-48 hour blood sample can be used to measure success/failure of passive transfer.
- Immunity goals are 80% calves above blood serum total protein of 5.0 and 50% calves above 5.5.